

The Effect of γ -Radiation of Co^{60} on the Permeability
of Polyethylene for Steam

SOV/76-33-7-30/40

tal results (Tables 1,2) indicate the following: The diffusion coefficient (DC) slightly drops with an increase in the radiation dose, and the permeability coefficient and solubility (S) rise considerably. The former is explained by a transition of (I) from the crystalline to the amorphous phase as well as by a concentration of (I) due to a lattice-like polymerization during the formation of transverse compounds. The increase in the (S) of steam in (I) is ascribed to the formation of polar groups under the influence of γ -radiations, which furthermore results in rising permeability of steam. The vigorous increase in the polarity of (I) after irradiation is confirmed by the rise of the quantity $\text{tg } \delta$. Irradiation of (I)-insulations for improving their resistivity to heat should be carried out in vacuum or inert atmosphere. A method devised earlier for determining the water permeability of polymeric films by means of tritium-marked water is very sensitive to structural changes of the polymer occurring in radiolysis. This method may be employed for corresponding tests. In conclusion, the authors thank V. L. Karpov, Yu. M. Malinskiy, and A. S. Fridman for their assistance. There are 1 figure, 2 tables, and 10 refer-

Card 2/3

The Effect of γ -Radiation of Co^{60} on the Permeability of Polyethylene for Steam SOV/76-33-7-30/40

ences, 7 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii (Academy of Sciences of the USSR, Institute of Physical Chemistry); Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti (Scientific Research Institute for Cable Industry)

SUBMITTED: August 6, 1958

Card 3/3

80816

21.5011

S/025/60/000/06/04/012

AUTHOR: Finkel', E.E., Candidate of Chemical Sciences

TITLE: Creative Radiations

PERIODICAL: Nauka i zhizn', 1960, No. 6, pp 11 - 16

TEXT: Popular explanations are given for the polymerization process under the effect of gamma-ray irradiation on the samples of polyethylene, polymethylacrylate, vulcanization, etc. A pilot installation is under construction in the USSR for polymerization of polyethylene. The purpose is to find the most advantageous techniques for the future, when atomic power plants of high capacity will be working, making waste from the reactors available as radioactive source. An idea is shown in illustration (p 15) where indium becomes a gamma-ray source by passing the active reactor zone within a circulation in a "radiation contour". Radiation cracking of hydrocarbons is said to be solved soon and will replace the conventional thermal and catalytic cracking. Radioactive chemical sources of electric power are also expected. One possible process scheme for obtaining organic glass is shown in illustration (insert after p 16). New silicone rubber is mentioned, subjected to

Card 1/2

15

4

80816

Creative Radiations

S/025/60/000/06/04/012

irradiation¹² and made suitable for use in a temperature range of -100° and +300°C
and resistant₁₃ against gasoline and oil. There are 8 illustrations.

Card 2/2

X

28 (5)

AUTHORS:

Karpov, V. L., Malinskiy, Yu. M.,

S/032/60/026/01/034/052

B010/B006

Mitrofanova, L. V., Finkel', E. E., Fridman, A. S.

TITLE:

Device for Determination of the Thermal Stability¹⁵ of Poly-ethylene- or Rubber Cable Insulations¹⁵

PERIODICAL:


Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 102 - 103 (USSR)

ABSTRACT:

The device mentioned in the title (Fig 1) consists essentially of an H-shaped frame standing on a steel plate. The latter has an opening in the middle of the crossbeam, through which the post with the loading weights is guided. At its top end, the post is fitted with a plate which transmits the pressure to the sample by means of two inset rodlets. The sample (a piece of cable with the insulation to be tested) is supported by two rodlets also. To indicate subsidence (sample deformation) of the last-mentioned plate by the indicator, the indicator is placed on the plate. Except for the indicator, the device is put in a thermostat, rendering possible sample heating at various rates up to 230°. The thermomechanical curves obtained for samples of high- and low-pressure polyethylene¹⁵ by means of the device described above

Card 1/2

Device for Determination of the Thermal Stability of Polyethylene- or Rubber Cable Insulations S/032/60/026/01/034/052
B010/B006

are given (Fig 2). The relative measuring error of this device is $\pm 5\%$ at the maximum. There are 2 figures. 

Card 2/2

84637

S/076/60/034/010/019/022
B015/B064

21.5200

AUTHOR:

Finkel', E. E.

TITLE:

¹⁹
Measurement of the Radioactivity of the Vapors of Gasoline and Benzene That Were Tagged With Tritium or Carbon-14

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 10, pp. 2365 - 2366

TEXT: The counter- and charge characteristics of the CBC-2 (SBS-2)²⁸ and CBC-5 (SBS-5)²⁸ Geiger counters filled with benzene- or gasoline vapor were investigated. It was found that at a vapor pressure of between 5-25 mm Hg of the counter filled with the mentioned vapors, the plateau is at least 200 v long at an inclination of less than 5% per 100 v. Thus, it is possible to use gasoline- or benzene vapor, as well as ethanol or butane (Ref. 1) to fill Geiger-Müller counters when measuring the radioactivity of tritium- or C¹⁴ tagged substances. The maximum counting rate is in the above case 5000-6000 pulses/min, the dead time approximately $9.6 \cdot 10^{-4}$ seconds. D. S. Parfenova took part in the experiments. There are Card 1/2

84637

Measurement of the Radioactivity of the
Vapors of Gasoline and Benzene That Were
Tagged With Tritium or Carbon-14

S/076/60/034/010/019/022
B015/B064

3 figures and 1 Soviet reference.

ASSOCIATION: Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti
(Scientific Research Institute of the Cable Industry)

SUBMITTED: May 28, 1960

Card 2/2

ALEKSEYEV, N.G.; PROKHOROV, V.A.; CHMUTOV, K.V.; FINKEL', E.E., red.; KOGAN, V.V., tekhn. red.

[Use of electronic equipment and circuits in physical chemistry] Pri-
menenie elektronnykh priborov i skhem v fiziko-khimicheskom issledo-
vani. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1961. 552 p.
(MIRA 14:12)

(Electronic apparatus and appliances)

(Chemistry, Physical and theoretical)

PINKEL E. E.

3

15.8520

33124

9,2165 (1001, 1331, 1442)

S/638/61/001/000/055/056
B125/B104

AUTHORS: Karpov, V. L., Malinskiy, Yu. M., Mitrofanova, L. V.,
Slinitsyn, S. T., Pinkel', E. E., Fridman, A. S. Chernetsov
S. M.

TITLE: Increase of the thermal stability of polyethylen-insulated
lines by ionizing radiation

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu
atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent,
1961, 383-389

TEXT: A copper wire 1 mm in diameter and insulated with 0.5 mm of
polyethylene was irradiated by a Co⁶⁰ gamma radiation source of
20,000 g-equ. Ra in a vacuum as well as by an electron linear accelerator
in the air. The thermal stability of the irradiated samples was deter-
mined by the analysis of the thermomechanical curves, i.e., of the time
dependence of deformation under given load and with the temperature rising
by a constant rate of 50 deg/hr, using a specially built device. The
deformation that was attained is a measure of thermal stability at given
temperature and load. The lifetime of the workpiece can be estimated from
Card 1/4

3

3312;
S/638/61/001/000/055/056
B125/B104

Increase of the thermal stability ...

the time dependence of deformation (likewise measurable by the above-mentioned device) at constant temperature and load. At increased temperatures the deformation is the lower, the higher the radiation dose, and remains practically constant up to 250°C. The restriction of deformation under a load of 0.5 kg to about half the radial thickness by irradiation with doses of 100-150 Mrad or by irradiation with 1-Mev ($15 \mu\text{a}/\text{cm}^2$) electrons for 2-4 min guarantees the usability of lines above 80°C. The final deformation is increased by a load increase without any change of its nature. The line still remains efficient if the load is quadrupled. The amount of final deformation is not affected by the rate of temperature increase over a wide range. The deformation is only little temperature-dependent under both long and brief load action. A line with irradiated insulation can be exposed to 180°C for at least 4 hrs, and remains efficient for some hours even at 230-250°C. If suitable stabilizers are introduced into polyethylene, the maximum operating time in this temperature range can probably be increased considerably, and the line can be exposed to even higher temperatures for a short time. The increased thermal stability improves the reliability of insulated wires at high temperatures, especially in the case of breakdown, and increases

Card 2/4

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33124

S/638/61/001/000/055/056
B125/B104

Increase of the thermal stability ...

the operating time at normal temperatures. Gamma irradiation in vacuo increases the stability at 20°C and 90°C, while doses of more than 200 Mrad. reduce it. The irradiation of 0.4 mm thick samples in the air reduces the relative elongation and also the tensile strength at 20°C and 90°C. The best strength properties are achieved by irradiation in vacuo with doses of up to 100 Mrad. The tensile strength of an insulation irradiated with fast electrons are presented in Table 1. Tensile strength, resistance to frost, electric breakdown and electrical resistance of a sample irradiated with a gamma dose of 100 Mrad or, equivalently, with 1-Mv electrons for 2-4 min were fully satisfactory. The resistance of line insulation to thermal aging drops with increasing radiation dose. Samples irradiated with electrons are more resistant in this respect than samples irradiated with an equivalent gamma dose. There are 6 figures, 6 tables, and 7 references: 5 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Dolle M., Kelling C. D., Rose D. J. J. Am. Chem. Soc., 76, 4304, 1954; Charlesby A., Bain, T. Brit. Plastics, 30, 4, 146, 1957.

Card 3/4

3

33124

S/630/61/001/000/055/056
B125/B104

Increase of the thermal stability ...

ASSOCIATION: Gosudarstvennyy n.-i. institut kabel'noy promyshlennosti
(State Scientific Research Institute of Cable Industry).
N.-i. fiziko-khimicheskiy institut im. L. Ya. Karpova
(Scientific Physicochemical Research Institute imeni L. Ya.
Karpov). Vsesoyuznyy elektrotekhnicheskiy institut im.
V. I. Lenina (All-Union Electrotechnical Institute imeni
V. I. Lenin)

Table 1. Tensile strengths of insulations irradiated with fast electrodes.
Legend: (1) irradiation technique; (2) nonirradiated material; (3) voltage;
(4) exposure (min); (5) tensile strength, kg/cm²; (6) relative elongation,
%.

| Режим облучения (1) | Необлученный материал (2) | Напряжение (3) | | | | | | | | | |
|-----------------------------------|---------------------------|----------------------|-----|-----|-----|-----|------|-----|-----|-----|--|
| | | 0,5 Me | | | | | 1 Me | | | | |
| | | экспозиция, мин. (4) | | | | | | | | | |
| | | 1 | 2 | 4 | 8 | 16 | 0,5 | 1 | 2 | 4 | |
| (5) Сопротивление разрыву, кг/см² | 160 | 148 | 134 | 131 | 158 | 154 | 166 | 150 | 143 | 131 | |
| (6) Относительное удлинение, % | 480 | 452 | 221 | 144 | 106 | 38 | 461 | 357 | 266 | 165 | |

Card 4/4

15.8500
N. 8060

36559

S/081/62/000/006/098/117
B162/B101

AUTHORS:

Parfenova, D. S., Sokolova, Z. F., Finkel', E. E., Chmutov, K. V.

TITLE:

Study of the effect of ionizing radiation on the moisture penetrability of polyethylene

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 6, 1962, 614, abstract 6P31, (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii, v. II, 1959, Tashkent, UzSSR, 1961, 389-395)

TEXT: An investigation is made of the moisture penetrability of polyethylene irradiated with Co^{60} gamma-rays in a dose range of 46 to 299 Mrad. It is established that the diffusion coefficient after irradiation in air drops slightly, while the coefficients of penetrability and solubility increase. The drop in the diffusion coefficient is associated with the increase in density of polyethylene through cross-linking as a result of irradiation. The rise in polarity, i.e., the development of carbonyl, carboxyl, and hydroxyl groups in the polymer, and its conversion from a hydrophobic material into a hydrophilic one. The increase in the coefficient of

Card 1/2

Study of the effect of ionizing ...

S/081/62/000/006/098/117
B162/B101

moisture penetrability is connected with the rise in solubility. The substantial increase in polarity of polyethylene irradiated in air is confirmed by measurements of the dielectric properties. [Abstracter's note: Complete translation.]

Card 2/2

S/844/62/000/000/094/129
D204/D307

AUTHORS: Karpov, V. L., Leshchenko, S. S., Mitrofanova, L. V. and
Pinkel', E. E.

TITLE: The effect of various additives on radiational cross-
linking and thermal stability of irradiated polyethylene
(PE)

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy kh-
mii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962,
547-553

TEXT: The aim of this work was to find suitable stabilizers for
irradiated PE and thus increase its useful life at higher tempera-
tures. The additives, i.e. soots and silica gels, a copolymer of
phenol and styrene, $H_2N.C_6H_4.N(C_6H_5)_2$, dinaphthylmethane, dibutyl
Sn maleate, dibutyl Sn stearate, dibutyl maleate, β -naphthol, and
phenyl- α -naphthylamine were mixed into PE by rolling and hot-pres-
sing, in amounts of 1 - 15 parts by weight. The specimens were γ

Card 1/3

The effect of various.

S/844/62/000/000/094/129
D204/D307

irradiated in air and vacuum (~100 Mrad, at 0.6 - 0.8 Mrad/hr), and their thermomechanical properties were studied at 150, 200 or 300°C. Channel and 'Vulcan' soots, the phenol-styrene copolymers $\text{NH}_2\cdot\text{C}_6\text{H}_4\cdot\text{N}(\text{C}_6\text{H}_5)_2$, and silica gel 'Aerosol' exerted no stabilizing action on PE; additives containing aromatic groups exerted a pronounced anti-radiation action; additions of silica gel type 'A' (SiO_2 containing uni- and polyvalent metallic admixtures) and of the organotin compounds exerted a strong stabilizing effect. The specimens containing 10 parts by weight of the above stabilizers had their useful life prolonged from 6 to 60 hours at 200°C and from 200 to 1500 hrs at 150°C. The effects of stabilizers depended on their content; the medium (air or vacuum) and temperature. Additives containing aromatic groups thus prevent cross-linking on irradiation but do not inhibit oxidative ageing processes, and vice versa. Organotin derivatives may participate in reactions proceeding through hydroperoxide radicals and leading to the formation of a network with oxygen bridges. The assistance of N. I. Sheverdina and L. V. Abramova,

Card 2/3

The effect of various ...

S/844/52/000/000/094/129
D204/D307

who supplied the organotin compounds, is acknowledged. There are
3 figures and 2 tables.

ASSOCIATION: Fiziko-khimicheskiy institut L. Ya. Karpova; NII ka-
bel'noy promyshlennosti (Physico-Chemical Institute
im. L. Ya. Karpov; NII of the Cable Industry)

Card 3/3

DZHAGATSPANYAN, Rafael' Vachaganovich; ROMM, Rudol'f Filippovich;
TATOCHEENKO, Lev Kirillovich; FINKEL', E.E., red.; KOGAN, V.V.,
tekhn. red.

[Application of radioisotopes to the control of chemical processes]Primenenie radioaktivnykh izotopov dlia kontrolya khimicheskikh protsessov. Moskva, Goskhimizdat, 1963. 343 p.

(MIRA 16:3)

(Radioisotopes--Industrial applications)
(Automatic control)

ALEKSANDROV, A. Yu.; BERLYANT, S.M.; KARPOV, V.L.; LESHCHENKO, S.S.;
OKHLOBYSTIN, O.Yu.; FINKEL', E.E.; SHPINEL', V.S.

Study by the Mössbauer effect of the behavior of dibutyltin
dimaleate as stabilizer in the irradiation of polyethylene.
Vysokom. soed. 6 no.11:2105-2107 N '64 (MIRA 18:2)

L 00747-66 EPF(c)/EWT(m)/ENP(j)/T/EWA(h)/EWA(l) RPL RM/WW

ACCESSION NR: AP5020964

UR/0190/65/007/008/1319/1322

AUTHOR: Karpov, V. L. ; Leshchenko, S. S. ; Mitrofanova, L. V. ; Finkel', E. E.

TITLE: Characteristics of the radiation crosslinkage of certain polyolefins and their copolymers in a nitrous oxide medium

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 8, 1965, 1319-1322

TOPIC TAGS: polyolefin, polyethylene, polypropylene, copolymer, nitrogen compound, crosslink, radiation effect

ABSTRACT: The effect of nitrous oxide on the radiation crosslinkage of polyethylene, polypropylene and an ethylene-propylene copolymer was investigated by the extraction method. It was shown that nitrous oxide accelerates this process in comparison to radiation crosslinkage attained in vacuum. The greatest acceleration was noted in polypropylene, from which it was concluded that the increased radiation crosslinkage yield is associated with the suppression of degradation. The acceleration effect in polyethylene was smaller since the prevailing process, upon its irradiation, is crosslinking and not degradation. It was suggested that

Card 1/2

L 00747-66

ACCESSION NR: AP5020964

the mechanism of energy dissipation from polyisobutylene to nitrous oxide, proposed by J. Okada (J. Appl. Polymer Sci. 7, 1731, 1963), obtains for the other polyolefins. Orig. art. has: 4 figures

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute) Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti (Scientific Research Institute of the Cable Industry)

SUBMITTED: 22Aug64

ENCL: 00

SUB CODE: GC, NP

NR REF SOV: 005

OTHER: 000

Card 2/2

L 64695-65 EMT(m)/EPF(c)/EPF(n)-2/EMP(j)/EWA(h)/EWA(1) GG/RM

ACCESSION NR: AR5012288

UR/0058/65/000/003/D075/D075

SOURCE: Ref. zh. Fizika, Abs. 3D607

AUTHOR: Yegorova, Z. S.; Slovokhotova, N. A.; Leshchenko, S. S.; Karpov, V. L.;
Finkel', E. E.; Mitrofanova, L. V.

TITLE: Spectral investigation of changes caused by ionizing radiation in polyethylene stabilized by tin dibutyl maleate

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 503-510

TOPIC TAGS: polyethylene, antioxidant additive, spectrographic analysis, ionizing irradiation, ir spectrum

TRANSLATION: It is found that the addition of tin dibutyl maleate reduces the oxidation rate of polyethylene during thermal aging and when it is subjected to ionizing radiation in air. A shift in the carboxyl ion band in the infrared spectrum from 1615 cm^{-1} for untreated polyethylene with tin dibutyl maleate to 1595 cm^{-1} after irradiation in a vacuum indicates that the polymer radical is joined to the tin atom to form a trialkyl tin salt. This is used as a basis to explain the antioxi-

Card 1/2

L 64695-65

ACCESSION NR: AR5012288

dative effect of tin dibutyl maleate as an additive to polyethylene during thermal aging and irradiation in air.

SUB CODE: GC, MT

ENCL: 00

KARPOV, V.L.; LESHCHENKO, S.S.; MITROFANOVA, L.V.; FINKEL', E.E.

Characteristics of radiation-induced cross-linking of some polyolefins and their copolymers in an N_2O medium. Vysokom. soed. 7 no.8:1319-1322 Ag '65. (MIRA 18:9)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova AN SSSR Moskva, i Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti.

3

L 2265-66 EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/EWA(h)/EWA(l) GG/RM
 UR/0191/65/000/009/0008/0012
 678.742.2.01:539.12.04:678.048

ACCESSION NR: AP5022220

AUTHOR: Gladkova, G. I.; Yegorova, Z. S.; Karpov, V. L.; Lashchenko, S. S.;
 Mitrofanova, L. V.; Slovokhotova, N. A.; Zinkel, E. E.; Cherntsov, S. M.

TITLE: Thermal stabilisation of irradiated polyethylene by industrial anti-oxidants

SOURCE: Plasticheskiye massy, no. 9, 1965, 8-12

TOPIC TAGS: antioxidant additive, polyethylene, antirad additive, gamma radiation, radiation effect

ABSTRACT: The following industrial antioxidants were introduced into polyethylene in amounts of 2, 5, and 10%: 2,2'-methylenebis(4-methyl-6-tert-butylphenol); 4,4'-methylenebis(2-methyl-6-tert-butylphenol); 2,2'-methylenebis(4-ethyl-6-tert-butylphenol); N-isopropyl-N'-phenyl-p-phenylenediamine (nonox 2A); 4,4'-thiobis(6-tert-butyl-m-cresol); 4,4'-thiobis(2-tert-butyl-m-cresol); phosphite of P-24 (P-24 being a phenol-styrene condensation product); and di-β-naphthyl-p-phenylenediamine. The polyethylene samples were then irradiated, kept in air thermostated at 150 and 200°C for various periods of time, and tested for relative elongation and tensile strength. The compounds were found to have a stabilizing effect if

Card 1/2

L 2265-66
ACCESSION NR: AP5022220

3

their content is 10 to 20 times the amount introduced into polyolefins to protect the latter from oxidation during processing. The most effective antiradiation additives kept the elongation of polyethylene irradiated with Co⁶⁰ gamma rays at 300-350%. Infrared analysis showed that during irradiation, particularly in the course of thermal aging, the stabilizer concentration in polyethylene decreases markedly. It is found that irradiation not only causes the formation of trans-vinylene unsaturation, but also gives rise to systems of conjugated double bonds whose number increases substantially during thermal aging. Carbonyl groups are formed both during irradiation and thermal aging, but in much smaller quantities than in cable polyethylene. "The authors thank G. Ya. Richmond for supplying the antioxidant samples." Orig. art. has: 7 figures. 4455

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, 06

NO REF SOV: 005

OTHER: 005

Cord 2/2

SMIRNOV, Yu.N.; FINKEL', V.A.

Crystalline structure of tantalum, niobium, and vanadium at
110°-400°K. Zhur. eksp. i teor. fiz. 49 no.4:1077-1082 0 '65.
(MIRA 18:11)

1. Fiziko-tekhnicheskii institut AN UkrSSR.

L 06156-67 EWT(m)/EWP(j) IJP(c) GG/RM

ACC NR: AP6024546

(A)

SOURCE CODE: UR/0089/66/021/001/0064/0066

AUTHOR: Berlyant, S. M.; Drozdov, V. Ye.; Finkel', E. E.; Orlenko, P. A.; Suroyegin, L. M.; Breger, A. Kh.; Karpov, V. L.; Zorin, V. A.

ORG: none

TITLE: Large-scale radiation cross linking of polyethylene insulation of cable products

SOURCE: Atomnaya energiya, v. 21, no. 1, 1966, 64-66

TOPIC TAGS: radiation chemistry, polyethylene, polymer cross linking, insulated wire, electric cable/ KP gamma ray apparatus

ABSTRACT: In view of the many advantages resulting from the use of irradiated thermally stabilized polyethylene as insulation in cables, the authors describe apparatus developed for the irradiation of such insulation, for use in geophysical cables for very deep well drilling (o.d. 6.5 mm, length ~9 km, weight ~380 kg, volume ~400 l), capable of withstanding temperatures up to 200C and pressures higher than 300 atm. The entire cable was wound on a drum and exposed to γ radiation from Co^{60} (total activity 180,000 g-equivalent of radium) from the KP-200 apparatus. Measures taken to ensure uniformity of the gamma radiation, which is an essential factor in the success of the operation, are described. The required dose was 140 Mrad ($\pm 10\%$). At a dose intensity of 63 r/sec and an irradiation time of 610 hr, the productivity of the apparatus was 0.7 kg/hr and the efficiency ~13%. The authors thank G. N. Lisov

Card 1/2

UDC: 621.039.55: 541.15

L 06456-67

ACC NR: AP6024546

for participating in the development of the apparatus, and M. Ye. Yeroshov, M. D. Iarionov, L. K. Topil'skiy, Yu. D. Kozlov, and the late N. A. Kuznetsov for help with the experiments. Orig. art. has: 3 figures.

SUB CODE: 07, 20/ SUBM DATE: 16Oct65/ ORIG REF: 007

Card

2/2

FINKEL, E. Ya.

AID P - 4847

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 7/26

Authors : Stayev, K. P. and E. Ya. Finkel

Title : Highly efficient method of knurling standard threads

Periodical : Stan. 1 instr., 2, 21-23, F 1956

Abstract : The authors describe an automatic machine designed by them for knurling helical threads and other profile cutting on rolling blanks. They also discuss the SF-3 experimental machine tool designed by the Moscow Machine-tool Building Institute specifically for knurling M8 to M10 threads on various bolts, with a capacity of up to 400 pieces per minute. Two photos, 2 tables and 1 drawing.

Institution : As above

Submitted : No date

FINKEL', G., inzh.

More and better dookyard facilities. Mor.flot 22 no.4:26-28
Ap '62. (MIRA 15:4)
(Docks--Equipment and supplies)
(Ships--Maintenance and repair)

FINKEL', G., inzh.

"Shipbuilding materials and ship repairs" by V.M. Sheluchenko.

Reviewed by G. Finkel'. Mor. flot 23 no.1:43 Ja '63.

(MIRA 16:4)

(Shipbuilding materials)

(Ships—Maintenance and repair)

(Sheluchenko, V. M.)

FINKEL', G.M.

Automatic control of the process of grinding clinker in mills with
a separator. TSement 28 no.6:20-21 N-D '62. (MIRA 15:12)

1. Chlen obshchestvennogo sodeystviya zhuranala "TSement" pri
Novorossiyskom tsementnom kombinat.
(Automatic control) (Cement)

FINKEL', G.F.

Telephone service for state farms in areas where new and idle
lands are being brought under the plow. Vest.sviazi 16 no.5:
22-23 Je '56. (MLRA 9:8)

1. Glavnyy inshener Kustanayskogo oblastnogo upravleniya svyazi.
(Kustanay Province--Telephone)

ANDREYEV, K.P.; VLADIMIROVA, N.I.; REZUKHINA, A.V.; ZINGEL', M.A.;
FINKEL', G.M.

Flotation method of isolating yeasts from yeast beer.
Gidroliz.i lesokhim.prom. 13 no.3:11-14 '60.
(MIRA 13:7)

1. Nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-
spirtovoy promyshlennosti (for Rezukhina). 2. Sukhonskiy
sul'fitno-spirtovoy zavod (for Finkel').
(Yeast) (Flotation)

STOLYARSKIY, Lev L'vovich. Prinimal uchastiye GLOZMAN, M.K.,
kand. tekhn. nauk; ADLERSHTEYN, L.TS., inzh., retsenzent;
FINKEL', G.N., inzh., retsenzent; RIMMER, A.I., inzh.,
nauchn. red.; KOMAROVA, N.P., red.

[Verifying operations in the finishing stages of shipbuilding and in ship repair] Proverochnye raboty pri dostroike i remonte sudov. Leningrad, Sudostroenie, 1965. 159 p.

(MIRA 18:8)

FINKEL' G. [N.] inzhener.

Admissible wear for sheet metal hull plating. Mor.flot 16 no.2:
20-21 P '56. (MLRA 9:5)
(Hulls (Naval architecture))

FINKEL', G.¹ inzhener.

Practice in protecting hulls from corrosion. Mor.flot 16 no.8:14-15
Ag '56. (Ships--Maintenance and repair) (MIRA 9:10)

FINKEL', G.N., inzh.

Increasing the coefficient of utilizable space on floating
docks. Sudostroenie 24 no.9:57-59 S '58. (MIRA 11:11)
(Docks) (Ships--Maintenance and repair)

[N.]
FINKEL', G., inzh.-kapitan 3-go ranga

Methods of speeding up ship repairing and reducing its costs.
Mor. flot 18 no.8:11 Ag '58. (MIRA 11:9)
(Ships--Maintenance and repair)

LOGVINOVICH, E.G., inzh.; FINKEL', G.H., inzh.

Permissible size ~~deviations~~ in docking ships. Smolostroenie
24 no.12:41-45 D '58. (MIRA 12:2)

(Ships)

(Docks)

FINKEL, G.N., inzh.

Experience in dockyard repair of ships. Sudostroenie 25
no.5:44-45 My '59. (MIRA 12:8)
(Ships--Maintenance and repair)

PINKEL', G.N., insh.

Experience in using ethinyl paints. Sudostroenie 24 no. 6:49-50
Je '58. (MIRA 11:8)
(Ships--Painting)

FINKEL', G., inzh.-kapitan 3 rang.

Length of the between-docking periods for merchant ships.
Mor.flot 19 no.12:18-21 D '59. (MIRA 13:3)
(Merchant ships--Maintenance and repair)

LOGVINOVICH, E.G., inzh.; FINKEL', G.N., inzh.

Reception of slipways in docks. Sudostroenie 25 no.1:49-52
N '59. (MIRA 13:4)
(Ships--Maintenance and repair) (Dry docks)

FINKEL', Genrikh Nakhmanovich; DROZHZHIN, K.M., inzh., retsenzent; SHNEYDER, K.M., retsenzent; STOLYARSKIY, L.L., red.; SHISHKOVA, L.M., tekhn.red.

[Organization of rapid floating dock repairing of ships] Organizatsiia skorostnogo dokovogo remonta sudov. Leningrad, Gos. soiuznoe izd-vo sudostroit.promyahl., 1960. 75 p.

(MIRA 13:11)

(Ships--Maintenance and repair)

ANDREYEVA, N.V., inzh.; FINKEL', G.N., inzh.

Launching and ship-raising structures in capitalist countries
[from foreign journals]. Sudostroenie 27 no.11:62-65 N '61.
(MIRA 15:1)

(Shipyards)
(Cranes, derricks, etc.)

FINKEL', G.N., inzh.

Building of floating docks in the German Federal Republic. Sudostroenie
29 no.1:81-85 Ja '63. (MIRA 16:3)
(Germany, West--Floating docks)

LOVYAGIN, Mikhail Aleksand. ovich; KORSANOV, Vadim Mikhaylovich
[deceased]; KAGANER, Yakov Borisovich; GARIN, Eduard
Nikolayevich; VIDREVICH, Ieroh Itskovich; REDEMAN,
Aleksandr L'vovich; BRAYNIN, Abram Isaakovich; GUBKIN,
Ivan Vasil'yevich; FINKEL', G.N., retsenzents; FOMENKO,
O.A., retsenzents; KLITORINA, T.A., red.

[Metallic floating docks] Metallicheskie plavuchie doki.
Leningrad, Sudostroenie, 1964. 335 p. (MIRA 18:1)

FINKEL', G.N., inzhener-kapitan 3-go rango

Increasing the capacity of docks by the sluicing method. Mr.
shor. 47 no.7:81-85 J1 '64. (MMA 18:7)

FINKEL', I., inzh.

Dust removal system of roller mills and the driving mechanism of
sifters have been improved at the Baku Flour Mill No.2. Muk.-elev.
prom. 27 no.2:22-23 F '61. (MIRA 14:4)

1. Bakinskaya mel'nitsa No.2.
(Baku—Flour mills)

FINKEL', I. I.

DECEASED

1963

Medicine
Endocrine glands

c. '63

FINKEL', I.I.

Morphological signs of the general adaptation syndrome in
experimental thoracotomy. Eksp. khir. i anest. 7 no.6:29-34
N-D '62. (MIRA 17:10)

1. Iz laboratorii patomorfologii (zav. - prof. Ya.L. Rapoport)
Instituta serdechno-sosudistoy khirurgii (dir. - prof. S.A.
Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev).

BOBROV, A.I.; FINKEL', I.M.,

New techniques in dyeing and finishing colored calfskin velour.
Leg. prom. 18 no.4:49-50 Ap '58. (MIRA 11:4)

1. Nachal'nik tsekha Rizhskogo kozhevennogo zavoda "Kommunar" (for Bobrov). 2. Nachal'nik otдела tekhnicheskogo kontrolya Rizhskogo kozhevennogo zavoda "Kommunar" (for Finkel').
(Dyes and dyeing--Leather)

FINKEL', Kh.Ya.

Automatic instruments for checking the straightness and length
of sewing needles. Izv.tekh.no.6:76-77 N-D '56. (MIRA 10:1)
(Pins and needles)

FINANCE
~~FINKEL~~ Kh.Ya.

Bin-feeding devices and their classification. Stan.1 instr. 29
no.1:1-3 Ja '58. (MIRA 11:1)
(Machine tools--Attachments)

FINKEL', Kh.Ya.

The MD-10 automatic machine for continuous thread rolling.
Bul. tekhn.-ekon. inform. no.8:35-37 '58. (MIRA 11:10)
(Screw-cutting machines)

FINKEL', Kh. Ya.

Regulated bin-guiding device. Stan.1 instr. 31 no.4 :34-35
Ap '60. (MIRA 13:6)

(Machine tools--Attachments)

FINKEL', Kh.Ya.

Vertical vibratory conveyers with distributing and guiding devices.
Stan. i instr. 32 no. 5:26-27 My '61. (MIRA 14:5)
(Conveying machinery)

FINKEL', Kh.Ya.; CHERPAKOV, B.I.; BABADZHANYAN, Z.S.

Automatic control of a centerless grinding machine. Stan.
1 instr. 34 no.10:23-25 0 '63. (MIRA 16:11)

S/044/62/000/004/056/099
C111/C333

AUTHOR: Finkel', L.A.

TITLE: On the properties of the solutions of a class of integro-differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 59, abstract 4B271. ("Issled. po integro-differents. uravneniyam v Kirgizii". No. I, Frunze. AN KirgSSR, 1961, 265-273)

TEXT: The author investigates sufficient conditions for the existence of the solution of the Cauchy problem $z^{(k)}(x_0) = b_k$ ($k = 0, 1, \dots, n-1$) for the integro-differential equation

$$z^{(n)}(x) = \sum_{k=1}^n p_k(x) z^{(n-k)}(x) + \lambda \int_{-\infty}^x \sum_{k=0}^m K_k(x,t) z^{(m-k)}(t) dt \quad (1)$$

where it is required that the absolute value of the solution be not greater than a certain function of exponential type. In the class of the functions bounded by a certain function of exponential type, the Card 1/2

On the properties of the solutions ... S/044/62/000/004/056/C99
C111/C333

author investigates, under certain assumptions on $p_k(x)$, $K_k(x,t)$,
the number of linearly independent solutions of (1). ✓

[Abstracter's note : Complete translation.]

Card 2/2

ACCESSION NR: AT3013103

S/2757/62/000/002/0201/0210

AUTHOR: Finkel', L. A.

TITLE: On the Cauchy problem for one class of linear integro-differential equations with infinite integration limits

SOURCE: AN KirgSSR. Institut fiziki, matematiki i mekhaniki.
Issledovaniya po integro-differentsial'ny'm uravneniyam v Kirgizii,
no. 2, 1962, 201-210

TOPIC TAGS: integrodifferential equation, Cauchy problem, infinite
integration limits, Fredholm determinant

ABSTRACT: The solution is considered of the Cauchy problem for an
integro-differential equation of the form

Card 1/3

ACCESSION NR: AT3013103

$$L[z(x)] = \lambda \int_{-\infty}^b \sum_{k=0}^m K_k(x, t) z^{(m-k)}(t) dt + \varphi(x), \quad (1)$$

where

$$L[z(x)] \equiv z^{(n)} + \sum_{k=1}^n p_k(x) z^{(n-k)}$$

with the initial conditions

$$z^{(s)}(x_0) = z_0^{(s)} (s=0, 1, \dots, n-1),$$

and x_0 an arbitrary point of the interval $J(-\infty < x \leq b)$. Theorems are derived concerning this function and its solutions, and it is shown that the solution of a similar problem by V. V. Vasil'yev

Card 2/3

ACCESSION NR: AT3013103

(DAN SSSR 1955, v. 100, 5, 849--852) is incorrect, because the latter has incorrectly formulated the Fredholm determinant. Orig. art. has: 36 formulas.

ASSOCIATION: Institut fiziki, matematiki i mekhaniki AN KirgSSR
(Institute of Physics, Mathematics, and Mechanics, AN KirgSSR)

SUBMITTED: 11Apr62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: MM

NO REF SOV: 007.

OTHER: 000

Card 3/3

ACCESSION NR: AT3013104

S/2757/62/000/002/0221/0231

AUTHOR: Finkel', L. A.

TITLE: Cauchy problem for the integro-differential equation of A. I. Nekrasov with infinite integration limit

SOURCE: AN KirgSSR. Institut fiziki, matematiki i mekhaniki. Issledovaniya po integro-differentsial'ny'm uravneniyam v Kirgizii, no. 2, 1962, 221-231

TOPIC TAGS: Cauchy problem, Fredholm determinant, integrodifferential equation, infinite integration limit, Nekrasov integrodifferential equation

ABSTRACT: The solution of the Cauchy problem

$$z^{(k)}(x_0) = z_0^{(k)} \quad (k=0,1,\dots,n-1) \quad (4)$$

Card 1/4

ACCESSION NR: AT3013104

for the integro-differential equation

$$L[z(x)] = \lambda \int_{-\infty}^b P[z(t)] K(x, t) dt + \varphi(x), \quad (1)$$

where

$$L[z(x)] \equiv z^{(n)} + \sum_{k=1}^n a_k(x) z^{(n-k)}, \quad P[z(t)] \equiv \sum_{k=0}^m b_k(t) z^{(m-k)}, \quad m < n,$$

is considered under the assumption that the kernel $K(x, t)$ of Eq. (1) is bounded and continuous in the domain $Q(-\infty < x, t \leq b)$ and the function $\varphi(x)$ is bounded and continuous in the interval J , the coefficients $a_1(x), \dots, a_n(x), b_0(x), b_1(x), \dots, b_m(x)$ are continuous in J and such that

Card 2/4

ACCESSION NR: AT3013104

$$\int_{-\infty}^b dt \int_{x_0}^t |H(h,t)| dh < \infty; \int_{-\infty}^b G(t)K(x,t)dt$$

converges absolutely and uniformly in this integral. Generalized Fredholm relations are formulated for the inhomogeneous integral equation

$$AF(x) = f(x), \quad (8)$$

where $f(x)$ belongs to class C of continuous and bounded functions in the interval J , and several theorems are proved first with respect to the eigenvalues and eigenfunctions of its kernel. The Cauchy problem for Eq. (1) with arbitrary initial conditions has a unique solution if the eigenvalues of the kernel are not roots of the Fredholm determinant. Orig. art. has: 35 formulas.

Card 3/4

ACCESSION NR: AT3013104

ASSOCIATION: Institut fiziki, matematiki i mekhaniki AN KirgSSR
(Institute of Physics, Mathematics, and Mechanics, AN KirgSSR)

SUBMITTED: 20Apr62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card 4/4

ACCESSION NR: AR4039294

S/0044/64/000/003/B079/B080

SOURCE: Ref. zh. Matematika, Abs. 3B374

AUTHOR: Finkel', L. A.

TITLE: The solution to the Cauchy problem for the integro-differential equation of A. J. Nikrasov with an infinite interval of integration

CITED SOURCE: Sb. Materialy* 7-y Nauchn. konferentsii Kafedry* vyssh. matem. Frunzensk. politekhn. in-t. Frunze, 1963, 57-63

TOPIC TAGS: Cauchy problem solution, A. J. Nikrasov integro-differential equation, infinite integration interval, Fredholm theory

TRANSLATION: For the integral equation

$$F(x) = f(x) + \lambda \int_{-\infty}^x d\eta \int_{x_0}^t H(\eta, t) K(x, t) F(\eta) d\eta$$

the Fredholm theory is constructed ($f(x)$ belongs to the class C of continuous

Card 1/2

ACCESSION NR: AR4039294

bounded functions in the interval $I(-\infty < x \leq b)$; solutions to equation (1) are also sought in the class C). In particular, an equation is constructed which is conjugate (adjoint) to equation (1). The obtained results are applied to an investigation of the solvability of the Cauchy problem

$$z^{(k)}(x_0) = z_0^{(k)}; k = 0, 1, \dots, n-1; x_0 \in I,$$

for the integro-differential equation

$$L[z] - \lambda \int_{-\infty}^b P[z(t)] K(x, t) dt + \varphi(x);$$

$$L[z] = z^{(n)} + \sum_{l=1}^n a_l(x) z^{(n-l)}; P[z] = \sum_{l=0}^m b_l(x) z^{(m-l)}$$

in the case $m < n$. It is noted that it is possible to consider the case $m > n$ in a manner analogous to what T. J. Vigranenko did (RZh Mat, 1957, 4071). Many of the results are given without proof. V. Fyodorov.

DATE ACQ: 22Apr64

Card 2/2

SUB CODE: MA

ENCL: 00

FINKEL', L. A.

USSR. "Silk Manufacture and Trade"
Quality ratio of _ocooms., Tekst. prom, No 2, 1952

Monthly List of Russian Accessions, Library of Congress,
March 1952. UNCL

FINKEL, L.A.

Automatizing the cocoon drying process. Tekst.prom.14 no.12:
46-47 D'54. (MIRA 8:2)

1. Starshiy sotrudnik Sredne-Asiatskogo nauchno-issledovatel'sko-
go instituta shelkovodstva.
(Silk manufacture)

FINKEL', L.A.

Efficient conditions for cocoon drying. Tekst. prom. 17 no.8:19-20
Ag '57. (MIRA 10:9)

(Silk manufacture).

FINKEL', L. A., Cand Tech Sci -- (diss) "On the new technological
process of drying silkworm cocoons in ^{mechanical box} ~~automatic cocoon drying boxes~~ ^{driers}."
Tashkent, 1958, ~~116~~ 18 pp (Min of Higher Education USSR, Tashkent
Textile Inst), 120 copies (KL, 15-58, 116)

-50-

FINKEL', L.A., inzh.-tekhnolog

Sorting bench developed b the Central Asia Scientific Research
Institute of Sericulture. Tekst.prom. 20 no.4:66 Ap '60.
(MIRA 13:7)
(Uzbekistan--Sericulture--Equipment and supplies)

FINKEL', L.A.; SIMONOVA, G.P.

Organization work and small-scale mechanization of operations in
cocoon drying. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.6:3-9 '60.
(MIRA 14:1)

1. 'Uzbekskiy nauchno-issledovatel'skiy institut shelkovodstva.
(Uzbekistan--Sericulture)

FINKEL', L.A., inzh.-tekhnolog

Improvement of the quality of dry cocoons. Tekst.prom. 21
no.9:17-18 S '61. (MIRA 14:10)

1. Starshiy spetsialist po shelku Ministerstva zagotovok
Uzbekskoy SSR.

(Sericulture)

RENKEVICH, Yu.L.; FINKEL', L.M., inzh.

Readers' letters. Geod. 1 kart. no.11:63-69 N '58.

(MIRA 11:12)

1. Inspektor otryada No.21 Vostochno-Sibirskogo aerogeodezicheskogo
predpriyatiya (for Renkevich). 2. Foto-TSekh Moskovskogo
aerogeodezicheskogo predpriyatiya (for Finkel').
(Surveying)

3(4)

AUTHOR: Finkel', L. M., Engineer of the SOV/6-58-11-11/15
Photographic Workshop of the Moscow AGP (Aerial Surveying
Authority)

TITLE: Contact Printer for Screen Printing (Kontaktnyy stanok dlya
shtrikhovoy pechaty)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 11, pp 65-67 (USSR)

ABSTRACT: Measuring scales are usually duplicated from the original
sets (which are engraved on glass or on a filmcoated glass)
by a photographic printing process. In this process there has
hitherto been used a contact printer with a diffuse illumin-
ation of the negative. The scales thus produced exhibited an
irregular density. On the basis of investigations carried out
in the Moscow AGP (Aerial Surveying Authority) a special
contact printer has been designed and constructed which
operates with an almost parallel beam of light. The principal
design of such a printer is described. This printer permits
to obtain printed dashes with a high quality and free from
shading even from such negatives, which do not lend them-
selves to a duplication on conventional printers. There are
2 figures.

Card 1/1

FINKEL M.

RUMANIA / Chemical Technology. Chemical Products.
Cellulose and its Derivatives. Paper.

H

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 69381.

Author : ~~Finkel M.~~ Barbassch S.

Inst : Not given.

Title : Experiments on the Production of Cellulose from
Reed in Accordance with the Sulfate Method and its
Variants. The "Caustic-Sulfur" Process and the
New "Thiosulfate" Process.

Orig Pub: An. Inst. cercetari si experim. ind. lemn. si hirt.,
1953, No 13, 273-289.

Abstract: Laboratory and pilot plant experiments pertaining
to the production of cellulose (C) from reed with
the use of sulfur introduced into treating solu-
tions are described. The introduction of sulfur
shortens the digesting time compared to that of

Card 1/2

110

RUMANIA / Chemical Technology. Chemical Products. H
Cellulose and its Derivatives. Paper.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 69381.

Abstract: the sulfate method (SM). Physical and mechanical properties of the obtained C are inferior to those of cellulose obtained by the sulfate method. A new modification of the SM has been developed. It is called the thiosulfate method. It permits shortening of the digestion time and yields C of satisfactory mechanical properties.

Card 2/2

II-33

ROMANIA/Chemical Technology. Chemical Products and Their
Application. Cellulose and its Derivatives.
Paper.

Abstr Jour: Ref Zhur-Khim., No 2, 1959, 6804.

Author : Finkel, M.

Inst :

Title : Alkaline Methods of Manufacturing of Cellulose from
Reeds for Paper Industry.

Orig Pub: Celuloza si hirtic, 1956, 5, No 7, 161-167.

Abstract: The sulfate method of manufacturing of cellulose and
the method with the application of Na_2CO_3 and S were
studied. The relation between the consumption of
active alkali and the hardness index during the pulping
process was established. The effect of S on the deligni-

Card : 1/2

153

RUMKHII/Chemical Technology. Chemical Products and Their
Application. Cellulose and its Derivatives.
Paper.

H-33

Abs Jour: Ref Zhur-Khim., No 2, 1959, 6804.

fication in the soda-sulfur method was investigated.
The possibility of repeated utilization of black lye with-
out encumbering the process of cellulose bleaching is
discussed. - From the author's summary.

Card : 2/2

163

FINKEL, M.

RUMANIA/Chemical Technology, Chemical Products and Their
Application, Part 4. - Cellulose and Its Deriva-
tives, Paper.

H-33

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34665.

Author : M. Finkel.

Inst : Not given.

Title : Digester-Desintegrator of Continuous Action for Hemi-
cellulose Production of Reed.

Orig Pub: Celuloză și Hirtie, 1957, 6, No 4, 128-130.

Abstract: The above mentioned aggregate and auxiliary installa-
tions pertaining to it for manufacturing hemicellu-
lose by the soda method under atmospherical pressure
are described.

Card : 1/1

Country : RUMANIA H
Category :
Abs. Jour : 44899
Author : Finkel, M.
Institut. :
Title : A Preliminary Hydrolysis of Raw Material as a
Method of Treatment in Production of Sulfate
Cellulose for
Orig. Pub. : Celul. si hirtie, 1957,6, Artificial Fibers
No 12, 425-427
Abstract : Data are given on pre-hydrolysis by water and
acid of pentosan-containing raw material, es-
pecially annual plants, and the effect of
this treatment on cellulose. Author's resume.

Card: 1/1

RUMANIA / Chemical Technology, Chemical Products and Their
Application. Cellulose and Its Derivative. Paper.

H-33

Abs Jour : Ref Zhur - Khimiya, No 5, 1959, No. 17802

Author : Finkel, M.

Inst : Not given

Title : Derivation of Cellulose for Artificial Fiber from One-
Year Old Plants

Orig Pub : Celuloza si hirtie, 1958, 7, No 1, 33-34

Abstract : Utilization of one-year old plants for the manufacture
of cellulose (C) and artificial cellulose fiber is
hampered by high content of inorganic substances present,
particularly SiO_2 (I). As the plants grow, proportion
of the soluble I in alkali increases. Therefore, in the
manufacture of C it is essential to employ mature plants.
Quantity of the alkali insoluble I in various parts of
a plant is present in the following decreasing order:

Card 1/2

H-147

RUMANIA / Chemical Technology, Chemical Products and Their
Application. Cellulose and Its Derivative. Paper.

H-33

Abs Jour : Ref Zhur - Khimiya, No 5, 1959, No. 17802

loaves, ears, knots, stocks. From reed, containing 2.31% I, and while employing sulfite process, C with 3.4% ash is obtained that contains 89% I. After the three-stage bleaching (with the cold caustic treatment) C contained 1.70% ash of 97.6% I. C obtained in the sulfite process contained 1.70% ash and after bleaching - 0.20% ash of 20% I but of high pentazano content. The preliminary hydrolysis (P.H.) of raw material decreases the hemi-cellulose content in C. The sulfate type C derived from straw, after PH contains 0.21%, and after bleaching 0.077% ash. It is assumed that from the one-year old plants it is possible to obtain C of low ash content (obtained from the sulfate treatment followed by caustic enrichment and heating or obtained from the sulfate treatment preceded by PH). -- G. Markus

Card 2/2

Country : RUMANIA H
Category :
Abs. Jour : 44402
Author : Oprea, Gh.; Apostol, V.; Finkel, M.;
Institut. : Zaharescu, I.
Title : Production of Sulfate Cellulose with a High
Yield from Coniferous Woody Tissue in Rumania
Orig. Pub. : Celul. si hirtie, 1958, 7, No 9, 364-374
Abstract : The possibility was established of producing
sulfate cellulose with a high yield (55-65%).
Technical-economic data are given on advantages of using this product. Authors' resume.

Card: 1/1

FINKE L, M.

RUMANIA / Chemical Technology, Chemical Products and H
Their Application, Part 4. - Cellulose and
Derivatives, Paper.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 63057.

Author : ~~M. Finkel~~

Inst : Not given.

Title : Ross's Graph as Auxiliary Mean for Studying
Technological Process of Cellulose and Semi-
cellulose Manufacture.

Orig Pub: Celuloza si hirtie, 1958, 7, No 3, 87 - 90.

Abstract: The Ross's graph serves for the explanation of
data obtained at the cellulose manufacturing,
if one parameter was changed in a series of
experimental digestions. Explanations how
to plot a Ross's graph and examples of prac-
tical application thereof are presented.

Card 1/1

AUTHOR: Finkel', M. Ya.

SOV/68-58-9-12/21

TITLE: On the Problem of Improving Technical-Economical Indices of the Production of Raw Benzole (K voprosu uluchsheniya tekhniko-ekonomicheskikh pokazateley proizvodstva syrogo benzola)

PERIODICAL: Koks i Khimiya, 1958, Nr 9, pp 45-47 (USSR)

ABSTRACT: Variations in the consumption of steam, absorption oil, electric power and water per ton of raw benzole on various coking works are discussed. It is concluded that in order to improve the operation of benzole plants the following measures should be taken: 1) wider application of preheating the oil in deflegmators and heat exchangers; 2) heat exchanger of low efficiency which cannot be reconstructed should be replaced by modern apparatus designed by Giprokoks; 3) the amount of absorption oil should be limited to a maximum of 50 m³/ton of raw benzole;

Card 1/2

SOV/68-58-9-12/21

On the Problem of Improving Technical-Economical Indices of the
Production of Raw Benzole.

and 4) in order to separate naphthalene and benzene
hydrocarbons boiling to 180°C from the reflux and their
return to debenzolised oil, the use of an additional
column for distilling reflux should be tested.

There is 1 figure.

Card 2/2

FINKEL, M.A., dotaent; KAHITOVA, M.I.

Vacuum extractor in obstetrical practice. Akush. i gin.
no.1:88-90 '65. (MIRA 18:10)

1. Rodil'nyy dom No.4 (glavnyy vrach V.D. Aleshina), Tashkent.

FINKEL', M. YA.

27153. KOPELEVICH, G. V., FINKEL', M. YA. Metod opredeleniya potentsial'nykh i fakticheskikh smol v poglotitel'nykh maslakh dlya ulavlivaniya syrogo benzola. Zavodskaya laboratoriya, 1949, No.8, s. 1007-08.

So: Letopis' Zhurnal'nykh Statey, Vol. 36, 1949.

753. APPROXIMATE METHOD FOR DETERMINATION OF VAPOUR PRESSURES OF
 TECHNICAL OILS. Kpelivich, G. V. and Finkel, M. Ya. (Zavodskaya
 Laboratoriya, (Factory Lab.) Apr. 1949, vol. 15, 479-480).

Finkel, M. YA.

528

AUTHOR: Finkel', M.Ya. (UKhIN), Lyukimson, M.I. and Kobzantsev, V.B. (Zhdanovskiy Coke Oven Works)

TITLE: On lowering the acidity of ammonium sulphate. (O snizhenii kislotnosti sul'fata ammoniya.)

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry), (Coke + Chem. p/117) 1957, No. 4, pp. 37 - 39, (U.S.S.R.) ZHDANOV

ABSTRACT: It is stated that in order to decrease the acidity of ammonium sulphate, oily impurities in the mother liquor should be separated. Observations indicated that if sufficient settling time is provided, oily and tarry impurities float on top and can be removed from circulation and thus the subsequent contamination of the salt can be prevented. In the Zhdanovsk Works the circulation of the mother liquor was modified, namely a large capacity tank (about 43 m³) was included as a settling capacity. Floating impurities were thus periodically removed from the circulation. This temporary measure was later replaced by the following scheme. The circulation pot was used as a settling tank. The liquor circulated in the saturator independently from the circulation pot by joining a pump directly to the saturator to withdraw the mother liquor from its middle zone and delivering it to the agitator. The circulation in the circulation pot was kept low in order to permit the separation of oily and tarry impurities. In addition, the washing of crystals in centrifuges was carried out with water heated to 70 °C. The above measures decreased the acid content of salt from 0.194-0.195% to 0.006-0.025%. There are 2 tables.

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68-8-11/23

TITLE:

On Decreasing the Temperature of Crystallization of Creosote Absorption Oil During Its Regeneration. (O snizhenii temperatury kristallizatsii rabotayushchego kamennougol'nogo poglotitel'nogo masla v protsesse ego regeneratsii).

PERIODICAL:

Koks i Khimiya, 1957, No.8, pp. 30-32 (USSR)

ABSTRACT:

In order to decrease the crystallization temperature of creosote absorption oil, the method of its regeneration was modified. The residues were removed from the regenerator at 270° C or somewhat higher temperatures (analysis of residues - table 3). The temperature of the oil in the regenerator was lowered from 170-175° C to 150-155° C and the consumption of direct steam from 4-5 to 2.5-3.0 ton/hr. With such practice a low temperature of crystallization of the circulating oil is maintained by removing from it the fraction boiling above 270° C. The quality of the absorption oil, before and after the above change in practice was introduced, is shown in table 4. The following participated in the work: M. A. Kogan, A. D. Kudlayev, V. M. Zaychenko (from Giprokoks) and S. B. Kotel'nikov, P. M. Rodshteyn, M. I. Lyukimson, V. B. Kobzantsev, A. M. Sverkovich and F. Ya. Ratgauzer (from Zhdanov Coke Oven Works). There are 4 tables.

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68-8-11/23

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